REMARKS

Claims 1, 18, 38, and 42 have been amended to further particularly point out and distinctly claim subject matter regarded as the invention. The text of claims 2-7, 19-24, and 39 is unchanged, but their meaning is changed because they depend from amended claims.

Claim 1 has been amended to correct a minor grammatical error. Claims 18, 38, and 42 have been amended to include limitations described in claims 8, 30, and 41 respectively, and thus these amendments do not constitute new matter.

New claims 43-67 also particularly point out and distinctly claim subject matter regarded as the invention and do not include any new matter.

Attached hereto is a marked-up version of the changes made to the specification and claims by the current amendment. The attached page is captioned "**Version with Markings to Show Changes Made**".

The 35 U.S.C. § 102 Rejection

Claims 1-2, 6-7, 25, 27-29 and 40 stand rejected under 35 U.S.C. § 102(e) as being allegedly anticipated by Chuah et al.[1] This rejection is respectfully traversed.

[1] U.S. Patent No. 6,400,722

According to the M.P.E.P., a claim is anticipated under 35 U.S.C. § 102(a), (b) and (e) only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference.[2]

The office action states:

> As to claim 1, Chuah discloses a method for centrally managing a computer network, including of:
> maintaining a central database of all NASes (Network Access Servers) known to the computer network (col. 1, lines 29-54 and col. 9, lines 10-48: plural inter-working function modules (IWFs) which are considered as network access servers (NASes) in the network; and col. 33, lines 45-53, col. 39, lines 28-54: NASes are connected to a data center); and
> broadcasting a message to a NAS list located at each POP (Point of Presence) in the computer network whenever said central database is changed,. said message containing information regarding the change (col. 1, lines 29-54 and col. 42, line 52-col. 44, line 37).[3]

Applicant respectfully disagrees with this analysis. Chuah does not disclose a central database of all NASes. In Chuah, the invention involves a wireless network and the patent discusses the problems involved when a user attempts to connect to a hub that is either within his "home network" but outside his typical NAS, or a hub that is outside his "home network" (aka, a "foreign network"). The solution described in col. 1, lines 29-54, col. 9, lines 10-48, col. 33, lines 45-53, col. 39, lines 28-54, and col. 42, line 52-col. 44, line 37 does not involve a central database of NASes. The database described in the document is local to the "home network". The Data Center, described in Col. 39, lines

[2] Manual of Patent Examining Procedure (MPEP) § 2131. See also *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987).
[3] Office Action, page 3.

28-53, only manages hubs controlled by the service provider, and not "foreign networks" - see lines 46-60 ("The registration server located in a foreign WSP's network is referred to as the foreign registration server (FRS), and the registration server located in the end system's home network (where the mobile purchases its service) is referred to as the home registration server.")

This is an important distinction in that the "database of NASes" described by Chuah does not list every known NAS, but rather merely the NASes controlled by the service provider along with foreign NASes from which traffic has flowed (resulting in registration in the database). The present invention, on the other hand, maintains a central database of all known NASes throughout the computer network, the computer network including what is described in Chuah as both the home network and the foreign network. Thus, in the present invention, a NAS in the foreign network may be listed in the central database even if it has never transmitted data to the home network. This saves a great deal of time when the foreign network NAS first transmits data to the home network. The database in Chuah may be "central" to the home network but is not central to the overall network as a whole.

Furthermore, there is no broadcasting of a message to a NAS list located at each POP described in Chuah. Referring to Col. 9, lines 10-14, Chuah states that "[u]sing the proxy registration agent (i.e., foreign agent FA) in a base station, the user registration agent of an end system is able to discover a point of attachment to the network and

register with a registration server in the MSC (mobile switching center) of the home network." Thus, the registration server is the only database described in Chuah that contains a NAS list, and that database is located at the data center, not at each POP.

The solution described in Chuah is nearly identical to the prior art solution described on Page 3, line 4 through page 4, line 7 of the Specification. It suffers from the same drawbacks, namely that "back-hauling" is required wherein the request from a POP must first go through the database, which is not located at the POP, and thus produces increased bandwidth consumption. The present invention solves this problem through the use of a central database of NAS information, and the publication of that NAS information to NAS lists located at the individual POPs. Limitations to this effect are contained in claim 1.

The office action further states that: "as to claim 6, Chuah discloses wherein said broadcasting is performed automatically by a broker whenever a change to said central database is made (col. 19, line 42 - col. 20, line 5)."[4] Applicant respectfully disagrees. The section of Chuah referred to by the office action only discusses the use of a broker in the very limited circumstance where a foreign registration server cannot determine the identity of the end system's home. In such a circumstance, the request is published by a broker to a number of different home networks to determine the correct one. Thus, the broadcasting is not occurring "whenever a change to the central database is made" but

only when a request to access a network is made, and even then only when the information cannot be determined on its own. Thus, typical changes, such as the adding or removing of a NAS from the network, will not be broadcast in Chuah. Hence, Chuah does not disclose "wherein said broadcasting is performed automatically by a broker whenever a change to the central database is made".

Claims 25 and 40 are corresponding apparatus and program storage claims containing similar limitations and thus the same argument as above applies to these claims. Additionally, claims 2, 6-7, and 27-29 are dependent claims. The base claims being allowable, the dependent claims must also be allowable.

The First 35 U.S.C. § 103 Rejection

Claims 3-5, 18-24, 26, 38-39, and 41-42 stand rejected under 35 U.S.C. § 103(a) as being allegedly unpatentable over Chuah et al in view of Holt et al.[5], among which claims 18, 38, 41, and 42 are independent claims. This rejection is respectfully traversed.

Specifically, the Office Action contends that

> As to claim 18, Chuah discloses a method for handling an access request at a PoP, said access request generated by a user logging on to the PoP, said user having a home PoP, the method including:
> determining if said user's home PoP is said PoP (col. 1, lines 29-54 and col. 19, lines 5-28: the registrationg server uses User-Name from the user registration agent (user's home PoP) to determine the end system's home network);

[4] Office Action, Page 3.
[5] U.S. Patent No. 6,070,192

forwarding said access request to an registration server located at said PoP if said user's home PoP is said PoP (col. 1, lines 29-54 and col. 19, lines 5-28: forwarding the registration request for authentication to a registration server (AAA server) in the home network); and

relaying said access request to said user's home PoP if said user's home PoP is not said PoP (col. 10, line 12-col. 11, line 3 and col. 17, lines 14-43).[6]

Claims 18, 38, and 42 have been amended to further particularly point out and distinctly claim subject matter regarded as the invention. Specifically, limitations from claims 8, 30, and 41 have been added. These limitations, as well as claim 41, will be discussed in greater detail with regard to the second 35 U.S.C. § 103 rejection discussed below.

Claims 3-5, 19-24, 26, and 39 are dependent claims. The base claims being allowable, the dependent claims must also be allowable.

In view of the foregoing, it is respectfully asserted that the claims are now in condition for allowance.

The Second 35 U.S.C. § 103 Rejection

[6] Office Action, pages 5-6.

Claims 8-17, and 30-37 stand rejected under 35 U.S.C. § 103(a) as being allegedly unpatentable over Holt et al in view of Chuah et al., among which claims 8 and 30 are independent claims. This rejection is respectfully traversed.

Specifically, the Office Action contends that

> Ad to claim 8, Holt discloses a method for locally processing an access request at a in a computer network [sic], said access request received from a NAS, the method including:
> accessing a list of network access servers (NASes) and the computer network [sic] (col. 10, lines 36-46); and
> validating that said access request was received from a known entity by determining if an entry exists in said list for the NAS from which the access request was received (col. 10, lines 36-46).
> However, Holt does not disclose said list of NASes known to the PoP and located locally at the PoP. In the same field of endeavor, Chuah discloses internet service provider (ISP) deploys [sic] and manages one or more points of presence (PoPs) in its service are to which end users connect for network service (col. 1, lines 29-54 and col. 9, lines 10-48). Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Holt an [sic] Chuah to include one or more points of presence (POPs) in service of ISP because Chuah suggests that by providing more points of presence, end users access the ISP by dialing the nearest POP and running a communication protocol known as point-to-point protocol.[7]

Applicant respectfully disagrees. It is unclear how the combination of Holt and Chuah could possibly teach having a NAS list local to the POP because neither Holt nor Chuah discloses having a NAS list local to a POP. As described above, Chuah discloses having a NAS at a data center, and not at any of the POPs. Holt describes a data access transport service but does not discuss a local list of NASes, as is pointed out by the office action. Merely the fact that Chuah describes

providing more points of presence does not equate with the claim limitations describing a local NAS list. In fact, the combination of Chuah and Holt would surely result in an invention where the NAS list is stored centrally (centrally as defined by Chuah to be central to the home network, but not central to the overall network), and certainly not locally at each PoP. Any other combination would be inoperative, as there is no disclosure of how both local and central databases would be handled in the same system (e.g., when a packet is received, which database is checked? are the databases synchronized?).

Thus, since neither Holt nor Chuah describes a list of NASes known to the PoP or a list of NASes listed locally, the 35 U.S.C. § 103 rejection of claim 8 is improper and applicant respectfully requests that it be withdrawn.

Similar limitations exist in claims 18 (as amended), 30, 38 (as amended), 41, and 42 (as amended), and thus it is maintained that these claims are also in condition for allowance.

Claims 10-17, and 30-37 are dependent claims. The base claims being allowable, the dependent claims must also be allowable.

In view of the foregoing, it is respectfully asserted that the claims are now in condition for allowance.

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[7] Office Action, pages 8-9.

Request for Allowance

It is believed that this Amendment places the above-identified patent application into condition for allowance. Early favorable consideration of this Amendment is earnestly solicited.

If, in the opinion of the Examiner, an interview would expedite the prosecution of this application, the Examiner is invited to call the undersigned attorney at the number indicated below.

Respectfully submitted,

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Dated: 2/19/03

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Version with Markings to Show Changes Made

1. (Amended Once) An apparatus for centrally managing a computer network, including [of]:

maintaining a central database of all NASes known to the computer network; and

broadcasting a message to a NAS list located at each POP in the computer network whenever said central database is changed, said message containing information regarding the change.

18. (Amended Once) A method for handling an access request at a PoP, said access request generated by a user logging on to said PoP, said user having a home PoP, the method including:

accessing a list of network access servers (NASes) known to the PoP and a computer network containing the PoP, said list located locally at the PoP;

validating that said access request was received from a known entity by determining if an entry exists in said list for the NAS from which the access request was received;

determining if said user's home PoP is said PoP;

forwarding said access request to an AAA server located at said PoP if said user's home PoP is said PoP; and

relaying said access request to said user's home PoP if said user's home PoP is not said PoP.

38. (Amended Once) An apparatus for handling an access request at a PoP, said access request generated by a user logging on to said PoP, said user having a home PoP, the apparatus including:

a memory configured to store a NAS list, said NAS list containing entries on each NAS known to the PoP and a computer network containing the PoP, and located locally at the PoP;

a NAS list accessor coupled to said NAS list;

an access request validator coupled to said NAS list accessor;

a user home PoP determiner; and

an access request forwarder coupled to said user home PoP determiner, said access request forwarder coupled to an AAA server if the PoP is said user's home PoP and coupled to a computer network if the PoP is no said user's home PoP.

42. (Amended Once) A program storage device readable by a machine, tangibly embodying a program of instructions executable by the machine to perform a method for handling an access request at a PoP, said access request generated by a user logging on to said PoP, said user having a home PoP, the method including:

accessing a list of network access servers (NASes) known to the PoP and a computer network containing the PoP, said list located locally at the PoP;

validating that said access request was received from a known entity by determining if an entry exists in said list for the NAS from which the access request was

received;

determining if said user's home PoP is said PoP;

forwarding said access request to an AAA server located at said PoP if said user's home PoP is said PoP; and

relaying said access request to said user's home PoP if said user's home PoP is not said PoP.